



PUZZLING CARTOON

- SCHOOL OF MAGIC -



Educational Goals

- ❖ Develop logic
- ❖ Highlight the playful potential of mathematics
- ❖ Illustrate the possible results by using a tree diagram

Key Features of the Targeted Competencies

- ❖ To define the elements of the mathematical situation
- ❖ To mobilize mathematical concepts and processes appropriate to the given situation
- ❖ To justify actions or statements by referring to mathematical concepts and processes

Concepts Used

- ❖ Tree diagram
- ❖ Arithmetic (addition and subtraction)

Materials

- ❖ Video of the puzzle
- ❖ Pen and paper
- ❖ Written version of the puzzle (optional)

Targeted Academic Level
Grades 3 to 6

Mathematical Field Concerned



Suggested Teaching Method



Time Required
Approximately 35 minutes



SUGGESTED PROCESS



Step 1: Introduction (3 minutes)

Present the puzzle a first time. You can also choose to play the puzzle's video (www.amazingmaths.ulaval.ca).

To allow your students the opportunity to properly understand the information and instructions, present the puzzle, or the video, a second time.

A written version of the puzzle is available via the Explanation Sheet. If you believe it is necessary, or that it would be helpful, project the puzzle's instructions on the board or pass copies to your students.

Step 2: Find solutions (17 minutes)

Place the students in pairs and ask them to try to find the solution. Encourage your students to write down the information obtained from the problem's statements.

To guide your students' thinking, suggest them to illustrate the different possibilities with a diagram or a Possibility Tree. Remind your students that there must only be one student who miscounted 7 books, one student that miscounted 15 books, and one student that miscounted 19 books.

Additionally, bring their attention to the fact that the young sorcerers may have incorrectly counted more or, less books than the correct amount.

Step 3: Share solutions (10 minutes)

See the puzzle's solution in the *School of Magic's* Explanation Sheet.

Do a Possibility Tree or a diagram on the board. With the help of your students, build the Possibility Tree and, as a group, try to find the puzzle's solution.

Ask teams to share the solution they found, to explain how they found the solution, and to compare their solutions to the one found as a group. Ask if other teams found the same solution by using different strategies.

Step 4: Solve the puzzle (5 minutes)

If the students were initially unsuccessful in solving the puzzle, they may want time to solve it now that they have seen the solution.